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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/928,553	08/13/2001	Paul Augustinus Peter Kaufholz	NL 000433	7134

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BRIARCLIFF MANOR, NY 10510

EXAMINER

WOZNIAK, JAMES S

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/928,553

Applicant(s)

KAUFHOLZ, PAUL AUGUSTINUS
PETER

Examiner

James S. Wozniak

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/13/2001.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-17 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 13 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Information Disclosure Statement

1. The information disclosure statement filed 2/21/02 fails to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office. It has been placed in the application file, but the information referred to therein has not been considered.

Specification

2. The disclosure is objected to because of the following informalities:
 - Claim numbers should not be listed in the summary of the invention (Page 1), and thus, should be deleted, while information relating to the noted claims that sufficiently describes system characterization and operation should be added.
 - In the brief description of the drawings (Page 2), with respect to Figs. 3-7, "ditto" should be deleted and a full brief description added to provide clarity.

Appropriate correction is required.

3. The abstract of the disclosure is objected to because "Fig. 6" is unnecessary and should be deleted.

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Douma et al (*U.S. Patent: 5,583,965*) in view of Brown et al (*U.S. Patent: 6,587,822*).

With respect to **Claims 1 and 8**, Douma discloses:

A method and system for operating a user-interactive multi-device audio-video system that contains user speech recognizing facilities (*speech control network for multiple audio-video devices connected to a central computer, Col. 3, Lines 2-5, and Fig. 1*).

Douma does not teach the use of echo canceling facilities to remove a device output from a speech input, however Brown recites:

Echo canceling facilities for avoiding the recognizing of a speech output from the system as user speech (*echo cancellation used to remove device output from a speech recognition input, Col. 6, Lines 21-25*),

Douma and Brown are analogous art because they are from a similar field of endeavor in speech-controlled systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to combine the echo canceling facilities taught by Brown with the multiple device speech recognition network taught by Douma to avoid possible recognition

errors as a result of speech feedback to a user from the feedback device taught by Douma (Fig. 1, Element 22), that could be accepted as a speech command. Also, as it would have been well-known to one of ordinary skill in the art at the time of invention, to provide separate speech processors for each device for in a speech recognition network in order to improve processing efficiency, it would also have been obvious to provide multiple echo canceling facilities for the same purpose. In addition, the recognition and echo canceling results could be communicated to the central computer shown by Douma in Fig. 1 (Element 10) to provide to overall recognition/cancellation result. Therefore, it would have been obvious to combine Brown with Douma for the benefit of obtaining a speech recognition system capable of higher recognition accuracy by canceling out unintended speech inputs from a feedback device, to obtain the invention as specified in Claim 1.

With respect to **Claims 2 and 9**, Douma in view of Brown teaches the speech recognition network, featuring echo-canceling facilities for avoiding possible recognition errors as a result of speech feedback to a user that could be accepted as a speech command, as applied to Claims 1 and 8. Douma in view of Brown does not teach system configuration in which the echo canceling facilities are connected in series, however, it would have been obvious to one of ordinary skill in the art, at the time of invention, to arrange the echo canceling facilities in series since a system series configuration would be a possible configuration in which all devices could communicate an echo canceling result to the central computer (Fig. 1, Element 10) taught by Douma to produce an overall rejection of an unintended speech input from a user feedback device. Thus, as a possible one of several (for example, parallel or distributed, which is shown in Fig. 1 of Douma) system configurations, it would be obvious to utilize a series arrangement of

echo cancellation facilities in order to communicate an overall cancellation result to a central control device.

With respect to **Claims 3 and 10**, Douma in view of Brown teaches the speech recognition network, featuring echo-canceling facilities capable of being arranged in a series configuration for avoiding possible recognition errors as a result of speech feedback to a user that could be accepted as a speech command, as applied to Claims 2 and 9. Additionally, Douma discloses the centralized speech recognition computer as applied to Claims 1 and 8.

With respect to **Claims 4 and 11**, Douma in view of Brown teaches the speech recognition network, featuring echo-canceling facilities capable of being arranged in a series configuration for avoiding possible recognition errors as a result of speech feedback to a user that could be accepted as a speech command, as applied to Claims 2 and 9. Douma in view of Brown does not teach a series configuration of echo canceling devices feeding speech recognition facilities in a distributed manner, however, it would have been obvious to one of ordinary skill in the art, at the time of invention, that utilizing the echo cancellation device of Brown, the central computer taught by Douma would be capable of transmitting, along with the speech recognition data, echo cancellation information to controllable devices connected in series in order to remove a device feedback from an actual speech input since the speech recognition system taught by Douma utilizes a distributed configuration to provide speech command data to multiple controllable devices. Thus, in order to cancel out the speech output of a user feedback device for multiple devices, it would have been obvious to utilize the distributed configuration taught by Douma to prevent any unintended command inputs for any connected device.

With respect to **Claims 5 and 12**, Douma in view of Brown teaches the speech recognition network, featuring echo-canceling facilities for avoiding possible recognition errors as a result of speech feedback to a user that could be accepted as a speech command, as applied to Claims 1 and 8. Douma in view of Brown does not teach the centralization of echo facilities to feed various speech recognizers, however, it would have been obvious to one of ordinary skill in the art, at the time of invention, to utilize the central speech processing computer taught by Douma and applied to Claims 1 and 8, in combination with the echo-canceling device taught by Brown in order to distribute cancellation information along with command data since Douma utilizes a distributed system configuration to provide speech command data to multiple controllable devices. Thus, in order to cancel out the speech output of a user feedback device for multiple devices, it would have been obvious to utilize the distributed configuration taught by Douma to prevent any unintended command inputs for any connected device.

With respect to **Claims 6 and 13**, Douma teaches the central computer used to perform speech recognition, while Brown teaches a device utilizing combined speech recognition and echo canceling means, as both applied to Claims 1 and 8. Also, it would have been obvious to one of ordinary skill in the art, at the time of invention, to utilize the echo canceling means in the central speech recognition computer taught by Douma in order to prevent an unintended input, from a user feedback device, from being recognized as a speech command by the entire speech recognition system by producing and distributing an input cancellation signal, thus improving command recognition accuracy.

With respect to **Claims 7 and 14**, Douma in view of Brown teaches the speech recognition network, featuring echo-canceling facilities for avoiding possible recognition errors

as a result of speech feedback to a user that could be accepted as a speech command, as applied to Claims 1 and 8. Douma in view of Brown does not teach system configuration in which the echo canceling facilities are connected in parallel, however, it would have been obvious to one of ordinary skill in the art, at the time of invention, to arrange the echo canceling facilities in parallel since a system parallel configuration would be a possible configuration in which all devices could communicate an echo canceling result to the central computer (Fig. 1, Element 10) taught by Douma to produce an overall rejection of an unintended speech input from a user feedback device. Thus, as a possible one of several (for example, series or distributed, which is shown in Fig. 1 of Douma) system configurations, it would be obvious to utilize a parallel arrangement of echo cancellation facilities in order to communicate an overall cancellation result to a central control device.

With respect to **Claim 15**, Douma in view of Brown teaches the speech recognition network, featuring echo-canceling facilities for avoiding possible recognition errors as a result of speech feedback to a user that could be accepted as a speech command, as applied to Claims 1 and 8. Douma in view of Brown does not teach the use of speech input/output means between speech recognition and echo cancellation facilities, however, it would have been obvious to one of ordinary skill in the art, at the time of invention, to do so in order to provide immediate echo cancellation at a device before speech recognition is performed in order to implement a barge-in mode of operation as taught by Brown (Col. 6, Lines 21-23) by canceling out an audio device before a speech command is input for recognition to ensure accurate recognition when a user attempts to speak while an audio feedback device is generating sound.

With respect to **Claim 16**, Douma teaches the speech recognition system as applied to Claim 1. Douma does not teach a means for disabling one or more of speech recognition, echo canceling, or audio output facilities, however Brown discloses:

Control means for selectively disabling one or more of said speech-recognizing facilities, said echo canceling facilities and audio output facilities of the device (*barge-in means for disabling a device audio output to allow a user to input an utterance, Col. 6, Lines 21-23*).

Douma and Brown are analogous art because they are from a similar field of endeavor in speech-controlled systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to combine the barge-in means to disable an audio output to allow a user input as taught by Brown with the speech recognition system for controlling multiple audio-video devices as taught by Douma to disable out an audio device when a speech command is input for recognition to ensure accurate recognition when a user attempts to speak while an audio feedback device is generating sound. Therefore, it would have been obvious to combine Brown with Douma for the benefit of obtaining a speech recognition system capable of preventing an audio output from interfering with a user input through the use of a barge-in function, to obtain the invention as specified in Claim 16.

With respect to **Claim 17**, Douma further discloses:

Microphone out means and furthermore control means for selectively controlling one or more of said speech recognizing facilities, said echo canceling facilities, and said microphone out means (*microphone for controlling speech recognition means to perform an audio-video device operation, Fig. 1, Element 12*).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Johnson (U.S. Patent: 5,657,425)- discloses a speech recognition system for the control of multiple devices using a central speech recognition computer.
- Nguyen (U.S. Patent: 5,765,130)- teaches an echo canceling means to cancel a system generated prompt to prevent interference with a user speech input.
- Black et al (U.S. Patent: 6,006,108)- teaches a near-end and far-end echo suppression technique for canceling an unwanted speech signal at a microphone input.
- Fisher (U.S. Patent: 6,061,653)- discloses a speech recognition system utilizing multiple speech recognition processors.
- Byers (U.S. Patent: 6,219,645)- teaches a speech recognition system for controlling multiple devices utilizing noise canceling means for removing ambient noise from a speech input.
- Has et al (U.S. Patent: 6,230,137)- discloses a speech recognition system capable of controlling multiple appliances.
- Ibaraki et al (U.S. Patent: 6,665,645)- discloses an echo canceller for use with audio-video devices to remove a microphone audio output from a speech input for recognition.


Art Unit: 2655

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (703) 305-8669 and email is James.Wozniak@uspto.gov. The examiner can normally be reached on Mondays-Fridays, 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tāivaldis Ivars Smits can be reached at (703) 306-3011. The fax/phone number for the Technology Center 2600 where this application is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the technology center receptionist whose telephone number is (703) 306-0377.

James S. Wozniak
5/1/04



TĀIVALDIS IVARS ŠMITS
PRIMARY EXAMINER